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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,005	10/29/2003	William J. Palmteer	18117[1111-03]	7102
26794	7590	11/14/2005	EXAMINER	
TYCO ELECTRONICS CORPORATION 4550 NEW LINDEN HILL ROAD, SUITE 450 WILMINGTON, DE 19808			KANG, DONGHEE	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/696,005	PALMTEER ET AL	
	Examiner	Art Unit	
	Donghee Kang	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 22 August 2005.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1,2,6-8,14 and 15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1,2,6-8,14 and 15 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 & 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Toda et al. (US 6,184,544).

Re claims 1 & 14, Toda et al. teach a semiconductor package comprising (Fig.2):

An electrically insulating substrate layer (21); a non-conductive layer (9 & 10) disposed on the electrically insulating substrate layer; and reflector layer (22, Col.4, lines 15-17) disposed on the non-conductive layer, wherein the electrically insulating substrate layer includes at least one first metallized portion (24) on a first surface thereof and at least one second metallized portion on a second surface thereof, said second surface opposite said first surface. Toda et al. teach the reflector and the electrically insulating layer being both made of plastic (Col.3, lines 53-60). Therefore, the coefficient of thermal expansion of the reflector layer is matched to the coefficient of thermal expansion of a material of the electrically insulating substrate layer.

Re claim 2, Toda et al. teach the reflector layer includes a conical portion.

Re claim 15, Toda et al. teach metallized portions are coupled to the light emitting diode.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toda et al. in view of Deisenhofer et al. (US 2002/0179919).

Re claim 6, Toda et al do not teach the non-conductive layer is made of glass. Deisenhofer et al. in Fig.1 teach the non-conductive layer 10 is made of glass and it is used for fusing to layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made form the non-conductive layer using glass taught by Deisenhofer et al in Toda's device, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as matter of obvious design choice. In re Leshin, 125 USPQ 416.

Re claims 7-8, neither Toda et al. nor Deisenhofer et al. teach the non-conductive layer and electrical insulating substrate both have a coefficient of thermal expansion which is matched to a coefficient of thermal expansion of the material of the reflector layer. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have matched coefficient of thermal expansion in the semiconductor package in order to prevent cracking caused by the mismatch in the coefficient of thermal expansion.


Conclusion

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghee Kang whose telephone number is 571-272-1656. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Loke can be reached on 571-272-1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Donghee Kang
Primary Examiner
Art Unit 2811

dhk